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Please add the following new claims:

14. (New) A sheathed element glow plug having an ionic current sensor, comprising:

a housing having a concentric bore; and

a rod-shaped heating element arranged in the concentric bore, the heating element including at least one insulation layer, a first feeder layer, a second feeder layer, and a web, the first feeder layer and the second feeder layer connected by the web on a combustion chamber-side end of the heating element, the first and second feeder layers and the web made of an electrically conducting ceramic material, the insulation layer made of an electrically insulating ceramic material, the heating element including at least one ionic current detection electrode made of an electrically conducting ceramic material.

15. (New) The sheathed element glow plug according to claim 14, wherein at least one part of at least one of the first feeder layer and the second feeder layer includes an ionic current detection electrode.

16. (New) The sheathed element glow plug according to claim 15, further comprising a first electric terminal and a second electric terminal arranged on an end of the heating element remote from a combustion chamber, the first electric terminal connected to an end of the first feeder layer remote from the combustion chamber, the second electric terminal connected to an end of the second feeder layer remote from the combustion chamber.

17. (New) The sheathed element glow plug according to claim 14, wherein the ionic current detection electrode one extends inside the insulation layer and is applied to the insulation layer.

18. (New) The sheathed element glow plug according to claim 17, wherein the ionic current detection electrode extends laterally on a surface of the heating element in a direction remote from a combustion chamber in front of an area in which the first and second feeder layers are connected to the combustion chamber-side end of the heating element.


19. (New) The sheathed element glow plug according to claim 17, wherein the ionic current detection electrode extends inside the insulation layer to the combustion chamber-side end of the heating element, the insulation layer extending to the combustion chamber-side end of the heating element.

20. (New) The sheathed element glow plug according to claim 17, further comprising:

a first electric terminal connected to the first feeder layer on an end remote from a combustion chamber; and

a second electrical terminal connected to the ionic current detection electrode on an end remote from the combustion chamber.

21. (New) The sheathed element glow plug according to claim 17, wherein the second feeder layer is connected to a ground via the housing.



22. (New) The sheathed element glow plug according to claim 14, further comprising a tubular spacer sleeve made of an electrically insulating material arranged within the concentric bore on an end of the heating element remote from a combustion chamber.

23. (New) The sheathed element glow plug according to claim 14, wherein the insulation layer, the first feeder layer, the web, the second feeder layer and the ionic current detection electrode include ceramic composite structures accessible by a sintering operation in at least one step using at least two of Al_2O_3 , MoSi_2 , Si_3N_4 and Y_2O_3 .

24. (New) The sheathed element glow plug according to claim 14, wherein the insulation layer, the web, the first feeder layer, the second feeder layer and the ionic current detection electrode include a composite precursor ceramic having a matrix material including one of polysiloxanes, polysilsesquioxanes, polysilanes, and polysilazanes, which are dopable with one of boron, nitrogen, and aluminum and are produced by pyrolysis, a filler of the matrix material formed from at least one of Al_2O_3 , MoSi_2 , SiO_2 and SiC .

25. (New) A method of operating a sheathed element glow plug having an ionic current sensor, the glow plug including a housing having a concentric bore and a rod-shaped heating element arranged in the concentric bore, the heating element including at least one insulation layer, a first feeder layer, a second feeder layer, and a web, the first feeder layer and the second feeder layer connected by the web on a combustion chamber-side end of the heating element, the first and second feeder layers and the web made of an electrically conducting ceramic material, the insulation layer made of an electrically insulating ceramic material, the heating element including at least one ionic current detection electrode made of an electrically conducting ceramic material, comprising the steps of:

applying, during a glow phase, a first electric voltage to the first feeder layer and a second electric voltage to the second feeder layer, a voltage potential of the first electric voltage different from a voltage potential of the second electric voltage; and

applying, after an end of the glow phase, a third electrical voltage having a same voltage potential to electrodes for ionic current detection.

26. (New) A method of operating a sheathed element glow plug having an ionic current sensor, the glow plug including a housing having a concentric bore and a rod-shaped heating element arranged in the concentric bore, the heating element including at least one insulation layer, a first feeder layer, a second feeder layer, and a web, the first feeder layer and the second feeder layer connected by the web on a combustion chamber-side end of the heating element, the first and second feeder layers and the web made of an electrically conducting ceramic material, the insulation layer made of an electrically insulating ceramic material, the heating element including at least one ionic current detection electrode made of an electrically conducting ceramic material, comprising the step of:

applying, during a glow phase, electric voltages having different voltage potentials to the first and second feeder layers and, at a same time, to the ionic current detection electrode.